

Redwood County / Lyon County
Joint Drainage Authority

Re: Redwood / Lyon Judicial Ditch # 22
Redetermination of Benefits

March 15, 2023

In accordance with Minnesota Statute 103E.351, we herewith submit the following viewers' report:

Benefits and Damages Statement

This report covers the redetermination of benefits for a previously constructed drainage system. The basis for determining benefits and damages is a comparison of the conditions that would have existed prior to the drainage system's construction to those that currently exist with the drainage system in a reasonable state of repair.

Redwood / Lyon Judicial Ditch # 22 was petitioned in 1916, ordered in 1917, and constructed prior to 1920. The JD # 22 watershed provides drainage to portions of the following sections in Redwood and Lyon counties:

Redwood County
Gales Township - Sections 19, 20, 29, 30, and 31

Lyon County
Amiret Township - Sections 25 and 36

As originally constructed, Redwood / Lyon JD # 22 consists of approximately 2.37 miles of open ditch and 9,885 feet of branch tile varying in size from 7" to 16" in diameter. Beginning in Section 31 of Gales Township, the main open ditch flows northerly to its outlet in a natural watercourse in Section 20 of Gales Township and from there to the Cottonwood River.

The field observations and land classifications for the watershed area were completed in 2022. The viewers made a visual inspection of each 40 acre or smaller parcel. As viewed, there are approximately 1172 acres that are directly benefited within the JD # 22 watershed.

Supporting documentation for the analysis and conclusions of this report are contained in our files and are available for inspection.

The conclusions stated herein are based on a full and fair consideration of all pertinent facts and information that the viewers were aware of at the time of this appraisal. The following aids were used during the viewing process:

1. Soil survey maps of Redwood County and Lyon County
2. FSA aerial photos
3. Topographical maps and LIDAR data
4. Yield averages and production costs based on Farm Business Management Reports
5. Visual inspection of each 40 acre or smaller parcel
6. Original ditch files, maps, and profiles
7. Sales data from the Redwood County and Lyon County Assessor offices

Land classification benefit values were calculated and based upon the potential increase in agricultural production as a result of constructing the drainage project. These benefit values were then reconciled with recent sales values. Existing individual land management practices were not considered. All present land use was evaluated using an estimated best land management practice standard. Consideration was given to those areas which were determined to be in a native/non-converted condition or identified as wetlands and restricted from drainage by federal or state regulations.

Road benefits were determined based on reduced road construction and maintenance costs that were realized after construction of the drainage system and the accelerated runoff resulting from a change in land use.

Valuation Prior to Drainage

Beginning land use, property value, and agricultural economic productivity have been determined with the consideration that the benefited properties within the watershed originally did not have an adequate outlet for artificial drainage.

“A” - Standing water or cattails – wetland classification with a market value for agricultural purposes of \$0.00 per acre and ag economic productivity of \$0.00

“B” - Seasonally flooded – pasture classification with a market value of \$5,000 to \$6,000 per acre and ag economic productivity of \$80.00 per acre based on grazing days and/or hay values

“C” – Wet subsoil – Marginal crop land of medium crop land classification with a market value of \$10,000 to \$11,000 per acre and net income of \$215.01 per acre with annual ag economic productivity of \$555.94 per acre (average yield of 75% of optimum) and \$340.93 per acre production costs

“D” – Upland areas not needing artificial drainage but irregular in shape and intermixed with wetter soils. These areas are medium to high crop land classification with a market value of \$10,500 to \$11,500 per acre and net income of \$341.02 per acre with annual ag economic productivity of \$681.95 per acre (average yield of 92% of optimum) and \$340.93 per acre production costs

Valuation with NRCS Recommended Drainage

After public and private drainage have been installed following NRCS design standards and using current crop rotation, income, and expenses, the land classifications have been modified as follows:

“A” – Drained slough – medium land classification with a market value of \$9,500 to \$10,500 per acre and net income of \$289.13 per acre with annual ag productivity of \$630.06 per acre (average yield of 85 % of optimum) and \$340.93 per acre production costs

“B” – Well drained ground, high land classification with a market value of \$11,000 to \$12,000 per acre and net income of \$363.26 per acre with annual ag economic productivity of \$704.19 per acre (average yield of 95 % of optimum) and \$340.93 per acre production costs

“C” - Well drained ground, highest land classification with a market value of \$12,000 to \$13,000 per acre and net income of \$385.50 per acre with annual ag economic productivity of \$726.43 per acre (average yield of 98 % of optimum) and \$340.93 per acre production costs

“D” - Well drained ground, high land classification with improved farmability and a market value of \$11,500 to \$12,500 per acre and net income of \$400.32 per acre with annual ag economic productivity of \$741.25 per acre (average yield of 100% of optimum) and \$340.93 per acre production costs

Using the agricultural economic productivity values from the previous page, potential benefits values were determined for the system based upon a 25 year effective life with proper maintenance. Private improvement costs were depreciated over the same 25 year period and a 3.0 % return on system investment was used.

Increased Productivity Evaluation

<u>CROP</u>	<u>OPTIMUM YIELD</u>	<u>COMMODITY VALUE</u>	<u>POTENTIAL INCOME</u>	<u>ROTATION ADJUSTMENT</u>	<u>ADJUSTED INCOME</u>
Corn	195	\$4.50	\$877.50	50%	\$438.75
Soybeans	55	\$11.00	\$605.00	50%	<u>\$302.50</u>
				Total	\$741.25

Expenses:

Corn	\$453.20 x 50% = \$226.60
Soybeans	\$228.66 x 50% = <u>\$114.33</u>
Total	\$340.93

Optimum Net Income \$741.25 - \$340.93 = \$400.32

Benefit Determination

	<u>“A”</u>	<u>“B”</u>	<u>“C”</u>	<u>“D”</u>
Crop Income	85% x \$741.25 = \$ 630.06	95% x \$741.25 =\$704.19	98% x \$741.25 =\$726.43	100% x \$741.25 =\$741.25
Production cost	<u>- \$340.93</u>	<u>- \$340.93</u>	<u>- \$340.93</u>	<u>\$ 340.93</u>
Net income	\$289.13	\$363.26	\$385.50	\$400.32
Previous Income	<u>- \$0.00</u>	<u>- \$80.00</u>	<u>- \$215.01</u>	<u>- \$341.02</u>
Increased Income	\$289.13	\$283.26	\$170.49	\$59.30
Private Improv.(Tile) -	<u>\$43.00</u>	<u>\$43.00</u>	<u>\$33.00</u>	<u>\$17.00</u>
Annual Increase	\$246.13	\$240.26	\$ 137.49	\$42.30

Present benefit value of annual increase in income for 25 years at 3% return

	<u>x 17.4131</u>	<u>x 17.4131</u>	<u>x 17.4131</u>	<u>x 17.4131</u>
	\$4,285.93	\$4,183.63	\$2,394.08	\$736.57
Round to	\$4,285.00	\$4,185.00	\$2,395.00	\$735.00

The drainage system as originally constructed provides agricultural drainage that meets recommended NRCS standards. The efficiency rate shown in the viewers' report is an indication of the effectiveness of the system currently in place. The proximity rate shown for each benefited parcel in this report further discounts the potential benefits received as a parcel's distance increases from the county drainage system. This allows for the construction of the public or private laterals required to improve the parcel's drainage to the recommended NRCS standard.

The viewers' report of acres benefited indicates the number of acres of each soil classification ("A", "B", "C", "D") and the benefit value for each classification type based on the increased agricultural production provided by the drainage system. No benefits were assigned to the acres designated as non-benefited. After the total benefits were determined for each parcel, the proximity rate and efficiency rate factors as described previously were applied to calculate the net benefits.

As required by Minnesota Statute, damages have been awarded for the purchase of the one-rod buffer strip on each side of the open ditch

This report is respectfully submitted to the Redwood / Lyon Joint Drainage Authority by:

William Moldestad

Tom Peterson

Shawn Wohnoutka